Year Round Vegetable Production Under Open and Protected Structure - Supervisor Level-4 (IHT-115)

DURATION: 1 YEAR

Module 1: Introduction to Vegetable Production
Present Status and Prospects of Vegetable Cultivation
Importance, Scope and Advantages of Vegetable Production
Classification of Vegetable Crops
Nutritional and Medicinal Value
Importance of Year Round Vegetable Production
Scope of Off-season Cultivation

Module 2: Location and Size of Vegetable Production System
Site Analysis for Protected/Open/Combined Cultivation
Construction Principles for Protected Structures
Financial Planning of Protected/Open Cultivation
Identification and Importance of Tools, Implements and Gadgets Used for Farm

Module 3: Principles of Greenhouse Technology for Protected Cultivation
Introduction
Importance, Scope and Advantages of Cut Flower Production in Greenhouse
Present Scenario of Cut Flower Production in Greenhouse
Classification of Greenhouse Structures
Green House Designs
Location Selection
Planning and Construction of Greenhouses
Construction Principles
Construction Materials
List of Companies Involved
Management of Light, Temperature and Humidity
Ventilation/Airflow Management
CO_2 Enrichment

Module 4: Water Management in Greenhouse and Open
Water Source and Quality and Water Needs of Plants
Detecting Water Deficiencies and Critical Stages of Irrigation
Calculation of Water Usage
Stages of Irrigation
Flood, Furrow, Drip, Sprinkler and Boomer Irrigation Systems
Soil Moisture Measurement
Maintenance of GH Irrigation Systems
Components of Drip Irrigation

Maintenance of Drip Lines, Valves and Emitters

Module 5: Fertigation and Nutrient Management
Macro and Micronutrients and their Requirement for Different Vegetables at Different Stages
Method of Application in Direct Soil
Method of Application through Foliar Application
Formulation of Fertilizers for Basal, Drip and Foliar Application
Technology of Fertigation
Stock Solution

Module 6: Nursery Management
Methods of Propagation
Plug Type Nursery Production
Care and Handling of Nursery Plants
Irrigation and Plant Protection
Hardening and Transplanting
Name Firms Dealing with Seedling
Selection of Seedlings and their Characteristics

Module 7: Tomato Production
Varieties and Selection
Environment and Substrate Requirements - Mulching
Soil Preparation
Bed Preparation
Transplanting
Intercultural Operations
Management of Insect Pests and Diseases
Physiological Disorders and Management
Harvesting Indices and Harvesting
Post-harvest Management and Marketing
Demonstration in Polyhouse on Crop Culture

Module 8: Capsicum Production
Varieties and Selection
Environment and Substrate Requirements - Mulching
Soil Preparation
Bed Preparation
Transplanting
Intercultural Operations
Management of Insect Pests and Diseases
Physiological Disorders and Management
Harvesting Indices and Harvesting
Post-harvest Management and Marketing
Demonstration in Polyhouse on Crop Culture

Module 9: Cucumber Production

Varieties and Selection
Environment and Substrate Requirements - Mulching
Soil Preparation
Bed Preparation
Transplanting
Intercultural Operations
Management of Insect Pests and Diseases
Physiological Disorders and Management
Harvesting Indices and Harvesting
Post-harvest Management and Marketing
Demonstration in Polyhouse on Crop Culture

Module 10: Post-Harvest Management and Marketing

Economics Computation
Demand and Supply Gap Identification
Identification of Maturity Indices as Per Market Demand
Harvesting Methods of Vegetables and Instruments Used
Precooling, Washing, Grading and Packing
Storage Temperature and Humidity Requirements of Different Vegetables
Marketing Produce Options - Local, Distant and for Export
Benchmark for Export - APEDA Standards
Export Oriented Production